

WORLD'S LARGEST SHIP NOW NEARING COMPLETION

THE world's largest ship, the *Majestic*, is fast approaching completion. Before another tourist season rolls around the International Mercantile Marine will have her in commission. Next April, it is expected, New York will see the marine marvel that not only excels our own monster *Leviathan*, seized from the Germans, but the ship that bids fair to be queen of the seas for a decade at least.

In a prominent place in *The Sun* on the morning of June 21, 1914, the following item appeared:

HAMBURG, June 20.—The *Bismarck*, the third of the three great giant steamships of the Hamburg-American Steamship Company, was launched at the yards of Blohm & Voss here to-day.

The Kaiser, who witnessed the launching, had issued a special order that the vessel be christened by Countess Hanna Bismarck, the eldest granddaughter of the Iron Chancellor, but there was a slight faux pas at the last moment, and the Emperor saved the situation. Just as the ship slid down the ways the Countess attempted to break the customary bottle of wine, but she was somewhat nervous and did not strike with sufficient force to break it. The Emperor quickly seized the bottle from her hand and smashed it on the sides of the new liner, thereby personally executing the christening of the vessel.

The selection of the name for the steamer was made by the Kaiser himself in commemoration of the great statesman, whose 100th birthday will be celebrated next year when the new vessel will sail on her maiden trip.

Eight days after this the first page of *The Sun* flamed with the announcement that the Archduke Francis Ferdinand, heir to the Austrian throne, and his morganatic wife, the Duchess of Hohenberg, had been assassinated while paying their first official visit to Sarajevo, capital of Bosnia.

Second Item Explains Why

She Will Fly the Union Jack

The second of these two little items explains why the Hamburg-American liner *Bismarck*, the greatest vessel in the world, did not sail from Hamburg on her maiden trip in 1915. Indirectly, it also explains why 'H. M. S. *Majestic*' of the White Star Line, the greatest vessel in the world, will sail on her maiden voyage from Plymouth April 5, 1922, bearing assassinations or other matches in powder barrels.

For that *Bismarck* of the old days when a big war was an impossibility is the *Majestic* of the new days in keel, hull and engines, although her flag is a Union Jack and not a German ensign. And of the two sister ships of the giant *Bismarck*, the *Imperator* and the *Vaterland*, one is now plying the Atlantic as the *Berengaria*, under the British colors and the house flag of the Cunard line, and the other lies at a Hoboken pier with *Leviathan* stenciled across her stern and the American flag streaming at the jackstaff above it. The world has changed since the Emperor smashed that bottle.

The *Majestic* is really a big ship. Her tonnage, 56,000, is 2,000 greater than the *Leviathan* and 10,000 greater than the *Olympic*, the White Star Line's next largest vessel. A better way of accentuating her size is to say that her tonnage is nearly as great as that of all the 132 ships of the great Spanish armada that bore down on England in 1588.

The *Majestic's* beam is 100 feet, the length of many an ordinary ship. Her three great smokestacks tower 144 feet above the water line and 184 feet above the keel, a total height equal to that of an ordinary twelve story building.

Really a Floating City

With Over 5,000 Population

The *Majestic* is a floating city, population 5,200, with many more modernities and conveniences than even the most model city can boast. Moreover, it will have its rich and poor and middle classes, its births and deaths, its social affairs, and, no doubt, its jealousies of other smaller places now afloat and of larger towns possibly to come. In due place will come its list of features; suffice it now to say that the *Majestic*, literally, is an Atlantic City, boardwalk included.

The Woolworth Building was constructed primarily to house the offices of thousands of busy workers, but irreverent shipping men have seized upon the "cathedral of commerce" as a yardstick to measure the length of their marine achievements for the edification of the public. Consequently, in considering the general dimensions of this largest ship, we will begin by saying that the *Majestic*, if reared up alongside the world's tallest building, would overtop the gilded spire by 164 feet. It would be easier to tumble the building down alongside the ship than to rear the *Majestic* in Broadway, but it would not be conventional. The liner is 956 feet, the building 792 feet in length.

It requires three big liners to maintain an adequate supercargo service across the Atlantic, so the White Star Line is planning to run the *Majestic* with the *Olympic* and a new liner, also built by the Germans, which is to be known as the *Homeric*. This third liner, of 35,000 tons, was constructed at Danzig.

Price Paid British Government

A Fraction of Present Cost

The *Majestic*, the *Berengaria* (former *Imperator*) and the *Homeric* were all turned over by the Germans to the British Government under the reparations agreement. The White Star Line purchased the *Majestic* for \$1,000,000 (less than \$4,000,000) and the Cunard Line the *Berengaria* for \$850,000 (less than \$3,400,000). The *Leviathan*, constructed before the war, cost in the neighborhood of \$10,000,000; the *Berengaria*, somewhat less than this. The *Majestic*, would, if completely constructed before the war, have cost probably \$11,000,000 or \$12,000,000. None of these big ships could now be constructed at an American yard under the present scale of prices and labor at less than \$25,000,000. The reconditioning of the *Leviathan* alone, the hull and engines of which are in good shape, would require the expenditure of about \$10,000,000, it has been estimated.

The actual cost of the *Majestic* can never probably be accurately known for the reason that the ship, half completed, lay at Hamburg eating up money in upkeep from 1914 until the present time. She was stripped of

copper and brass to make torpedoes for U. S. boats. Fire broke out in her hull in October, 1920, but despite reports current that she was ruined it later developed that the fire started in a coal bunker used as a store-room and worked upward until fireproofing arrested its progress. It was rumored at the time that some Germans had fired her purposely to prevent her from being turned over to the Allies, but the resultant loss was borne by them, as they must turn the ship over complete.

During much of 1920 and the present year a thousand men have been kept busy on her. Her funnels were hoisted into place last May. Representatives of Harland & Wolff and the White Star Line are keeping track of the progress of the ship and are confident that she will be towed to Southampton in time to make her first voyage next April. The *Homeric* is due to precede her to this port by about a month.

Our Largest Ship at Sea

Is Only of 23,788 Tons

Unless the *Leviathan* is reconditioned, the United States will be far behind England in the matter of big ships. The largest ship now in actual operation by the Shipping Board, or rather the United States Lines, the operating company, is the *George Washington*, the ship in which President Wilson crossed to France. This vessel, entirely renovated and redecored, may be classed with the British ships in luxury but is far smaller in actual tonnage. The American liner is 699 feet in length, 74 feet in beam and has a gross tonnage of 23,788. She has accommodations for 2,636 passengers.

Returning to the *Majestic*, this liner will carry a crew of about 1,100 men and will have accommodations for 4,100 passengers. Of these 1,000 will be in the first cabin, 700 in the second and 2,400 in the third. The space occupied by her cabins, public rooms, engine rooms and other departments is equal to that in 400 average detached suburban residences of eight rooms each.

Like a city, the *Majestic* is divided into neighborhoods. The ship's officers will live by themselves in a steel house on the bridge deck, the first class passengers will live amidships, the second class further to the stern, the steerage passengers in both bow and stern, and the crew in their own neighborhood in the hull. The neighborhoods will be large, too, for the *Majestic* has five steel decks running the full length of the hull. Above these are four superstructure decks, which run about a third the length of the ship, or more than 300 feet, in the 'midships' section. The nine decks have a combined area of seven and a half acres. The height from keel to boat deck is 102 feet.

In the various districts there will be 1,245



From the keelson of the *Majestic* to the deck is 102 feet, while the funnels tower to the height of a twelve story building. Sir Bertram Hayes will command the giant liner.

staterooms, of which 472 are in the first cabin, 212 in the second and 561 in the third. In addition to the third class rooms the steerage is equipped with dormitories for single men and single women respectively.

The Waldorf-Astoria, a representative city hotel, has never come anywhere near accommodating the number of people who will travel on the *Majestic*. The hotel on one occasion took care of 1,501 guests, less than half the number the *Majestic* will probably carry as an average load.

Nor does the *Majestic* consist merely of sleeping accommodations. Her great public rooms rival those of any hotel here or abroad. There are great halls with clear spaces and lofty ceilings not usually associated with marine architecture. The lounge, for example, has a ceiling 26 feet high. Its floor dimensions are 78x54 feet. The main dining room has an area of more than a quarter of an acre. It is 117 feet long and 98 feet wide, covering 11,466 square feet. The ceiling over part of this space rises to a height of 31 feet. An *a la carte* restaurant for first class passengers is about half as large, being 110 feet long and 54 feet, a little more than half the breadth of the ship, in width.

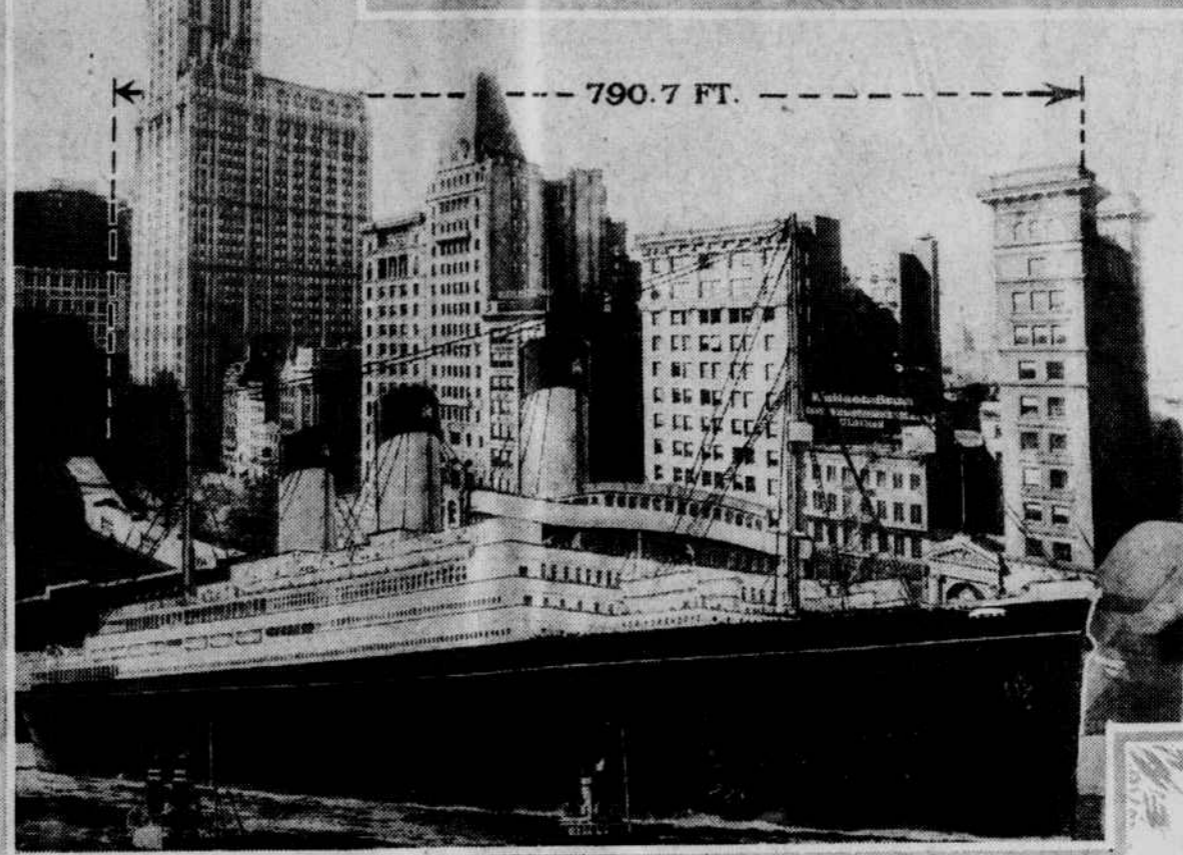
In a room designed especially for quiet will be located the library. Four thousand volumes will be at the disposal of voyagers. There will also be a large gymnasium with all the equipment needed to keep passen-

gers in the best of trim, and electric and Turkish baths near by. The Pompeian swimming bath will really be large enough to test the swimming ability of some of those who try it, for it will have an area of 820 square feet and will be nine feet deep. The bath will be of mosaic work and marble. Its depth will be nine feet and it will contain 130 tons of sea water, more than enough to sink many an ocean going craft. There will be thirty dressing rooms around it. Spectators will save themselves from a splashing by making their observations from the balcony.

Among the other features will be a public veranda cafe on deck, glass enclosed, with flowering shrubs and trailing vines; an abundance not to be noted on roof gardens; a playground for children with equipment to amuse children ranging from one year up; a squash tennis court for racquet enthusiasts;

Majestic, Once the *Bismarck*, to Enter White Star Service Next April
—Of 56,000 Tons, New Maritime Giantess Is a Veritable City—
Will Probably Be Last Word in Liners for Years, as
None So Great Is Laid Down or Planned

From the south side of Barclay street to the north side of Chambers, along Broadway, is 790.7 feet. The *Majestic* is 956 feet long. Thus were she placed in City Hall Park she would extend through to the Post Office and to St. Paul's churchyard.



a conservatory for preserving flowers reserved by passengers on sailing; a card room or bridge; a ballroom, a winter garden and a store which can be used for moving pictures or vaudeville.

To look out for the comfort and needs of the passengers there will be 650 men and 25 women in the steward's department, which includes also butchers, cooks and bakers. In the eight separate kitchens on the ship there will be 70 cooks, 25 bakers and 15 butchers. In the second and third cabins will be maintained two "kosher" kitchens to serve Jewish travellers.

Eight Kitchens, Seventy Cooks.

Part of the Steward's Department

Encyclopedias might be written on the work of feeding all these people. It is a gargantuan task, as the victualling superintendent might tell you, particularly as salt air is no mean sharpening of appetites and there is no corner grocery to run out to if it is discovered, about four hours out of New York, that somebody had forgotten the salt or the meat hadn't arrived.

Here is a list compiled by the victualling superintendent of the line of a few of the things needed aboard the liner to feed passengers and crew on a round trip:

At least 150,000 pounds of meats, 37,000 pounds of poultry, 1,000 plover, 1,000 quail, 1,000 snipe, 1,000 pheasants, 750 partridges, 750 grouse, 500 wild ducks, 55,000 pounds of fish, 70,000 pounds of flour, 16,000 pounds of sugar, 120,000 pounds of potatoes, 10,000 pounds of butter, 6,000 pounds of tea and coffee, 80,000 eggs, 5,000 gallons of milk, 4,800 cabbages, 14,000 pounds of carrots and turnips, 600 boxes of apples, 400 boxes of oranges, 60 boxes of pears, 1,600 pounds of tomatoes, 6,000 pounds of jams and marmalade, one ton of ice cream and one ton of hot-house grapes.

AND 1,000 quart bottles champagne, 1,500 pint bottles champagne, 1,000 quart bottles other wines, 1,300 pint bottles other wines, 4,000 bottles of spirits (whiskey, gin, brandy, &c.), 300 bottles of liquors, and 80,000 bottles of ale and stout.

Taken all in all, it is an expensive matter to run a liner of this size. Counting about everything it will cost about half a million dollars to run the *Majestic* from Plymouth to New York and back. The crew of 1,100 men alone get an average of \$75 a month, which means \$82,500 in the aggregate, and then there is the matter of provisions, fuel, supplies, overhead, &c.

The ship is so large it is quite a problem to get around in her and to keep in touch with other parts of the boat. There are, of course, electric elevators which run from keel to boat deck. One of these is in the engine room so that members of the force on duty can get about quickly. Also included is a complete telephone installation.

Another little item which was not present in the *Caravelle* of Columbus is an electric switchboard twenty-two feet long and eight feet high. From this, among other things, are controlled 15,000 electric lights, and ventilating fans all over the ship driven by 103 electric motors. There are also 122 other motors which drive auxiliary machinery, elevators, winches, &c. Five dynamos generate the current for these motors.

The ventilating system is 98,000 feet in total length. In other words any one who attempted to find out where all the ducts ran would have to walk more than eighteen nautical miles.

The ship's power plant down under the waterline is a thing that also commands superlatives as regards both size and energy. From huge tanks—bunkers are a thing of the past on most modern liners—5,700 tons of oil will pour out each voyage into the burners which keep up a terrific heat under her forty-eight boilers. The steam from

these will operate four huge turbine engines for driving the hull ahead, and four for checking her speed and sending her astern. The weight of a single main turbine is 375 tons.

These driving engines will deliver a maximum of 62,000 to 64,000 indicated horsepower through four shafts to the four propellers of the ship, each of which is sixteen feet in diameter. This horsepower is equal to that of about three thousand average automobiles. At 170 revolutions a minute, the ship's big screws will drive her through the water at about twenty-three knots, or more than twenty-six land miles an hour. At 194 revolutions they will send her rushing through the water at twenty-six knots, or better than thirty statute miles an hour. Normally the ship will probably make her run from Plymouth and Cherbourg to New York in about six days, as excessive speed eats up fuel at a terrific rate.

In the engine room force there will be about 275 men, including the chief engineer, his many assistants, oilers, water tenders and boiler room attendants. These latter men have a much easier job than the firemen of an older day, for there is no coal to be shoveled into the furnaces; the oil sprays in automatically.

The commander—Mayor would be almost as good a term—of this floating city will be

Stunt Flying Sure Death

Continued from Preceding Page.

France—the looping Pegoud and the altitude flier Roland Garros—met death in the manner any flier might be proud of by being shot down by German aviators after taking severe toll of their foe. The men who brought them down were themselves sent flaming to earth before the war came to an end. A third of the great French fliers, the peppery Jules Vedrines, the first pilot to land a plane on the roof of a building, met death in 1919 when his machine fell from a great height during a flight from Paris to Rome.

One of the pilots whom more conservative fliers find it hard to forgive or explain was Ormer C. Locklear, the first man to stroll about on the wings of an airplane and jump from one plane to another while flying at great heights. Locklear and his favorite pilot, Milton Elliott, escaped death many times and lasted many months longer than most aeronautical authorities believed possible, but in the end they died.

Locklear's most thrilling stunt, and one he performed many times, was to stand on the upper wing of one plane and grasp the rope ladder dangling from the landing gear of a plane above him. He also would drop from one plane to the wing of another. In addition both Locklear and Elliott were fond of stunting, and especially of stunting near the earth. Their end came at Los Angeles on the night of August 3, 1920, while performing a stunt for the movies that neither of them considered particularly hazardous.

The two men flew to a height of 10,000 feet—about two miles—in a glare of searchlights. Then, at a signal from the ground, the plane was headed downward in a tail spin. Rotating rapidly as if caught in a giant air whirlpool, the plane dashed toward the earth, following downward a rocket which had been fired toward earth. In the rear cockpit Elliott busied himself discharging fireworks. At 200 feet Locklear decided it was time to come out of the whirl. The momentum of the fall was too great, however, and the plane crashed headlong. Both men were instantly killed.

One of those who have met death recently in emulation of Locklear was Miss Madeleine Davis of Fort Pierce, Fla., a twenty-three-year-old girl, who tried to climb from the rear seat of a speeding automobile driven by Miss Ruth Law onto a rope ladder dangling from a plane flying

Sir Bertram Hayes, at present commander of the *Olympic*. Sir Bertram himself is a link between the days of old burning express liners and square-rigged ships. Born at Birkenhead, England, in 1864, he first went to sea at the age of 16 as an apprentice on the ship *Laomene*. Nine years later he made his first voyage on a steamer, acting as fourth officer of the White Star liner *Coptic*, then in the New Zealand trade. Sir Bertram's first command was the famous old *Britannica*, which he became captain of in 1899.

During both the Boer war and the great war Captain Hayes carried troops. He was given command of the *Olympic* in 1915, and under him the ship carried 200,000 troops across the Atlantic without loss of life. A plate on the deck house of the ship he will leave recites that on May 12, 1918, the *Olympic* sank a German submarine. It was for this he was knighted. As a matter of almost established fact, the *Olympic* on that day sank two submarines, one by gunfire and another by ramming.

Although naturally proud of his elevation to command of the greatest ship in the world, Sir Bertram is loyal to the *Olympic*.

"If the *Majestic* is any better than the *Olympic* she will be a wonder," he said.

Docking Great Liner Here

Is Most Delicate of Tasks

Because of her size, Captain Hayes will have little fear for the safety of his ship while at sea, but for that same reason he will need all the experience of his forty-one years on the water when the liner nears New York Harbor. For the handling of the *Majestic* in the restricted waters of the upper Bay and North River and in docking her is one of the most ticklish problems a captain ever faced.

The great piers of the Chelsea section, between West Fourteenth and West Twentieth streets, project their long framework far out into the river, where a swift tide swirls by at right angles. It is the problem of captain and pilot to get the big ship through the crowds of river traffic, and then put her crosswise to the swift currents and nose in alongside the pier.

The ship's own power is of little use in this work, for it is too great. Should she hit a pier or an assisting tug under steam, great damage would be done. So, save for a little help now and then from the engine room, the job is accomplished by from twelve to twenty tugs, and by the ship's capstans, working on hawsers twelve inches in circumference and tested to a strain of 131,000 pounds.

How long will the *Majestic* be the greatest ship in the world? That is a question which was asked of each of the great liners which succeeded to the title since the days of packets and clipper ships.

The *Leviathan* is unique in that she has been the greatest ship in the world since 1914 and will be until 1922, a reign of eight years, but the *Majestic* may hold the title even longer than that. For, strangely enough, there are now no big ships on paper or in process of construction at Belfast, Hamburg or the other shipbuilding cities.

The big ship does not pay, shipping men say, and this may make the *Majestic* queen of the seas until the days when air liners supplant passenger ships. But it must not be forgotten that the great rivalries of British, French and German steamship companies really were responsible for the fast succeeding queens of the days before the war, and with the United States back in the merchant marine field new rivalries may develop that will bring the title to a liner as yet undreamed of flying our own flag.

above. She lost her clutch after dangling for a few seconds on the ladder and dropped to the road. She died several hours later.

Miss Law herself is a good pilot but in the opinion of brutally frank brother aviators is a bit too fond of walking about on her plane, clinging to the top wing during a loop and doing other stunts of no value to the world to last very much longer. Miss Law began flying in 1911, and once made an American non-stop record by flying 590 miles from Chicago to Hornell, N. Y. Her brother, Rodman Law, a parachutist and daredevil in air and on land and sea, died in bed after years of the riskiest sort of stunts. It is possible, therefore, that the Law family is exempt from death by accident.

For a year and a half Laura Bromwell was acclaimed the foremost woman flier in this country, but she, too, looped once too often, and fell to death in a dive of 1,500 feet in an overturned plane at Curtiss Field, Mineola.

Miss Bromwell, in discussing the dangers of stunt flying, once said:

"I am willing to give my life to my plane. I have never had an accident and I am as careful as I can be, but one can never tell."

The girl, who was only 23, established a loop record for women of eighty-seven times in 1920. In May, 1921, she beat this by looping 199 times, but the next month, starting to loop in a larger plane, with which she was unfamiliar, slipped in the big seat, losing control and dropping, upside down.

Harry G. Hawker, the daring Australian who in 1919 made a futile attempt to fly from Newfoundland to Ireland, landed near a ship in midocean and was rescued, was a marvellous pilot, who for nine years competed in races, tested new planes and established records. He dropped to death from a height of 3,000 feet several months ago while testing a new plane, a Nieuport Goshawk, for use in the annual English Aerial Derby.

Aviation has now reached a stage, in the opinion of aeronautical engineers, where stunt flying, except for military purposes, must be ended. Men will continue to fly upward to greater heights and to fly more swiftly and to fly in new types of machines, but by national and international laws foolhardy pilots are to be swept from the air even more swiftly than their own crazy evolutions will bring them to earth.

How the *Majestic* Compares With Other Large Ships.

SHIP.	Length.	Beam.	Tonnage.
<i>Majestic</i> (new).....	956	100	56,000
<i>Majestic</i> (old).....	565	57.8	10,147
<i>Leviathan</i>	950	100	54,000
<i>Olympic</i>	882	92½	46,000
<i>Berengaria</i>	919	98	50,000
<i>Great Eastern</i>	680	83	18,915